

Powered Traction Devices for Intervertebral Decompression

Health Technology Assessment Update
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The information in this assessment of powered traction devices supplements the technology assessment of Vax-D conducted by the department in 1999.

Background

Powered traction tables are intended to relieve low back pain associated with herniated discs, degenerative disc disease, facet syndrome, and radicular pain. Powered traction tables apply cycles of tension to the lumbar vertebral column. The resulting separation of lumbar vertebral bodies is intended to unload the spine through decompression of the nucleus pulposus. Powered devices provide traction without the accompanying abdominal muscular contractions that other types of traction elicit.

The patient lays prone on the table, attached by a pelvic harness. The table separates in two, applying traction to the spine. An attached tensionometer delivers precisely controlled cycles of distraction and relaxation. The patient can stop the movement of the table by releasing the handgrips, which stops the tension immediately.

The manufacturers' recommended treatment course is 5 times per week for a total of 20 treatments.

Regulatory Status

The Food and Drug Administration granted 510(k) approvals to several companies to market devices classified as "Traction equipment, powered".

Company	Device	Year of Approval
Vat-Tech Inc.	Vax-D	1989
PDS Inc.	DRS System	1998
North American Medical Corporation	Spina System	2000
Axiom USA	DRX-3000	2003
Lordex, Inc.	Lordex Traction Unit	2003

These devices are FDA indicated for the relief from pain for patients with low back pain. Treatment is "designed to provide static, intermittent, and cycling distraction forces to relieve pressures on structures that may be causing low back pain. It relieves pain associated with herniated discs, degenerative disc disease, posterior facet syndrome, and sciatica. It achieves

these effects through decompression of intervertebral discs, that is unloading due to distraction and positioning."

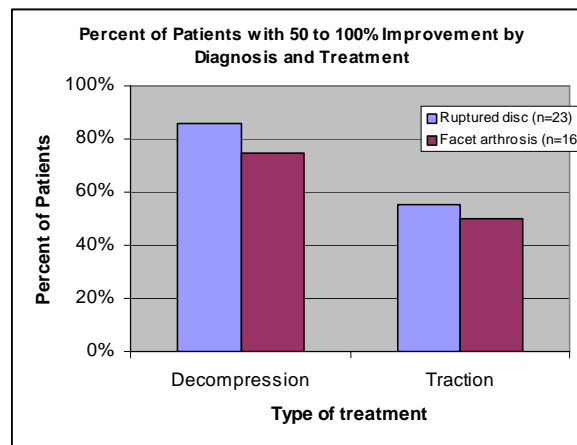
Review of Evidence

A literature search was conducted for randomized controlled trials published since 1999 studying the effect of powered traction devices on low back pain. The search resulted in one study conducted by Shealy.

Shealy's study included 39 subjects, ranging in age from 31 to 63 years, who had symptoms of less than one year. MRI had diagnosed ruptured discs in 23 subjects. All but 4 had sciatic radiation with mild to moderate L5 to S1 hyperalgesic.¹

All patients received treatment for 30 minutes daily for 20 treatments. Ice and electrical stimulation followed treatment to relieve spasm and swelling. Patients used TENS and exercised at home. Follow-up occurred at 5 to 8 weeks.

Patients were randomly assigned to traction or decompression tables. A standard, mechanical traction table applied traction weights averaging one-half body weight plus 10 pounds for 60-second intervals. Decompression patients received treatment on the DRS System.



Shealy concludes that decompression devices involving unloading of the facets resulted in better outcomes compared to traditional mechanical traction.

Codes and Insurers

For billing and payment purposes, CPT 97012 is used for the provision of powered traction therapy.

¹ Shealy, CN and Borgmeyer, V. "Decompression, Reduction, and Stabilization of the Lumbar Spine: a Cost-effective Treatment for Lumbosacral Pain." *AJPM*. 1997; 7: 63-65.

Code	Description
97012	Application of a modality to one or more areas; traction, mechanical

Conclusion

Published literature has not substantially shown whether powered traction devices are more effective than other forms of traction, other conservative treatments, or surgery.